${\tt TGCAGGAGCCGCAGCTGGGACCTGCTGTTAACCATGAACTCTTCCTGCTGCCTGTCTTCTTGTTTCT}$ ${\tt CCGATGCTGCCTAACCTCTGAGCACCCTGCAGCCCTCCTGCCAGCAACCGGAGCGGCAGTGGGTTCTG}$ TGAGCAGGTCTTCATCAAGCCGGAGGTCTTCCTGGCTCTGGGCATCGTCAGTCTGATGGAAAACATCCTGG TGATCCTGGCTGTGGTCAGGAATGGCAACCTGCACTCTCCCATGTACTTCTTCCTGTGCAGCCTGGCTGCA GCCGACATGCTGGTGAGCCTGTCCAACTCCCTGGAGACCATCATGATCGCCGTGATCAACAGCGACTCCCT GACCTTGGAGGACCAGTTTATCCAGCACATGGATAATATCTTCGACTCTATGATTTTGCATCTCCCTGGTGG $\tt CCTCCATCTGCAACCTCCTGGCCATTGCCATCGACAGGTACGTCACCATCTTCTATGCCCTTCGGTACCAC$ AGCATCATGACAGTTAGGAAAGCCCTCACCTTGATCGGGGTCATCTGGGTCTGCTGCGGCATCTGCGGCGT GATGTTCATCATCTACTCCGAGAGCAAGATGGTCATCGTGTGTCTCATCACCATGTTCTTCGCCATGGTGC TCCTCATGGGCACCCTATATATCCACATGTTCCTCTTCGCCAGGCTCCACGTCCAGCGCATCGCAGTGCTG $\tt CCCCTGCTGGCGTGGTGGCCCCACAGCAGCACTCCTGCATGAAGGGGGCTGTCACCATCACTATCCTGCT$ GGGTGTTTTCATCTTCTGCTGGGCGCCTTTCTTCCTCCACCTGGTCCTCATCATCACCTGCCCCACCAATC $\tt CCCCTCATCTACGCCTTCCGCAGCCTGGAGCTGCGCAACACGTTCAAGGAGATTCTCTGCGGCTGCAACAG$ CATGAACTTGGGCTAGGATGCCCGTGGAGGTGTTCCACATCCAGCCAAGAGACAAAAACAACGCTCAGACG GGACGTAAAAGGGTGTTAGGAGCTGGAACTGTGCTTGGCTTCGTCTGTAAGCTCGTGGCCCTTTGCAGACG TGGAAGAATCAGGCAAAGCAGCCCTGAGTGTCATCTGTGTTCATTGCTAGGCACCCAGGGTTTGTGGCCCC TGCCTGCTTATTGGCTTTGTACCAGTAACTGTGCTTCAAGCCAACCAGACCGGAGGGCTCTCGTGAGCAGA AAGAGTGCTTAGACTTCCGGCAAGCATCCTGGCTCACAGCGGCCACCTCCTGACCACTACCGGGAGAGCTT TGCACATATTCTGTGGGAGATTGAGTGAAGCCCTGAAAACAATGTGATATTTGCTGCTCCCTTCCAGAACT TACATCTGTGCCAGCCTCCCGAACCCCTGCACAGAGACATGACCCCCTTCTCCCTGTGCCGTTGTCATGG TTGTTATTATTGTTGGAGTTTTGTTCGTTAAAATCTAAGCTT (SEQ ID NO:1)

MNSSCCLSSVSPMLPNLSEHPAAPPASNRSGSGFCEQVFIKPEVFLALGIVSLMENILVILAVVRNGNLHS PMYFFLCSLAAADMLVSLSNSLETIMIAVINSDSLTLEDQFIQHMDNIFDSMICISLVASICNLLAIAIDR YVTIFYALRYHSIMTVRKALTLIGVIWVCCGICGVMFIIYSESKMVIVCLITMFFAMVLLMGTLYIHMFLF ARLHVQRIAVLPPAGVVAPQQHSCMKGAVTITILLGVFIFCWAPFFLHLVLIITCPTNPYCICYTAHFNTY LVLIMCNSVIDPLIYAFRSLELRNTFKEILCGCNSMNLG (SEQ ID NO:2)

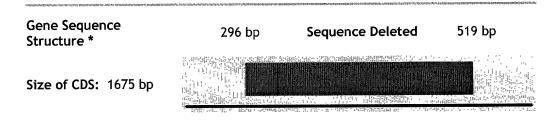
FIGURE 1

Underlined = deleted in targeting construct

Bold = sequence flanking Neo insert in targeting construct

TCTAGACTGGACAGCATCCACAAGAGAAGCACCTAGAAGGAGAATTTTCCCCAGCAGCTT GCTCAGGACCCTGCAGGAGCCGCAGCTGGGACTGGACCTGCTGTTAACCATGAACTCTTC CTGCTGCCTGTCTTCTGTTTCTCCGATGCTGCCTAACCTCTCTGAGCACCCTGCAGCCCC TCCTGCCAGCAACCGGAGCGGCAGTGGGTTCTGTGAGCAGGTCTTCATCAAGCCGGAGGT CTTCCTGGCTCTGGCATCGTCAGTCTGATGGAAAACATCCTGGTGATCCTGGCTGTGGT CAGGAATGGCAACCTGCACTCTCCCATGTACTTCTTCCTGTGCAGCCTGGCTGCAGCCGA CATGCTGGTGAGCCTGTCCAACTCCCTGGAGACCATCATGATCGCCGTGATCAACAGCGA CTCCCTGACCTTGGAGGACCAGTTTATCCAGCACATGGATAATATCTTCGACTCTATGAT TTGCATCTCCTGGTGGCCTCCATCTGCAACCTCCTGGCCATTGCCATCGACAGGTACGT CACCATCTTCTATGCCCTTCGGTACCACAGCATCATGACAGTTAGGAAAGCCCTCACCTT GATCGGGGTCATCTGGGTCTGCGGCATCTGCGGCGTGATGTTCATCATCTACTCCGA GAGCAAGATGGTCATCGTGTGTCTCATCACCATGTTCTTCGCCATGGTGCTCCTCATGGG CACCCTATATATCCACATGTTCCTCTTCGCCAGGCTCCACGTCCAGCGCATCGCAGTGCT GCCCCTGCTGGCGTGGTGGCCCCACAGCAGCACTCCTGCATGAAGGGGGCTGTCACCAT CACTATCCTGCTGGGTGTTTTCATCTTCTGCTGGGCGCCTTTCTTCCTCCACCTGGTCCT CATCATCACCTGCCCCACCAATCCCTACTGCATCTGCTACACGGCCCATTTCAACACCTA CCTGGTTCTCATCATGTGCAACTCCGTCATCGACCCCCTCATCTACGCCTTCCGCAGCCT GGAGCTGCGCAACACGTTCAAGGAGATTCTCTGCGGCTGCAACAGCATGAACTTGGGCTA GGATGCCCGTGGAGGTGTTCCACATCCAGCCAAGAGACAAAAACAACGCTCAGACGGGAC ${\tt GTAAAAGGGTGTTAGGAGCTGGAACTGTGCTTGGCTTCGTCTGTAAGCTCGTGGCCCTTT}$ $\tt TTGATCTAGCACATAGCCTGGAAGAATCAGGCAAAGCAGCCCTGAGTGTCATCTGTTTC$ ATTGCTAGGCACCCAGGGTTTGTGGCCCCTGCCTTATTGGCTTTGTACCAGTAACTG TGCTTCAAGCCAACCAGACCGGAGGGCTCTCGTGAGCAGAAAGAGTGCTTAGACTTCCGG CAAGCATCCTGGCTCACAGCGGCCACCTCCTGACCACTACCGGGAGAGCTTTGCACATAT TCTGTGGGAGATTGAGTGAAGCCCTGAAAACAATGTGATATTTGCTGCTCCCTTCCAGAA CTTACATCTGTGCCAGCCTCCCCGAACCCCTGCACAGAGACATGACCCCCTTCTCCCTGT GCCGTTGTCATGGTTGTTATTATTGTTGGAGTTTTGTTCGTTAAAATCTAAGCTT

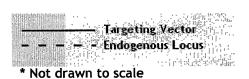
FIGURE 2A



Targeting Vector* (genomic sequence)

Construct Number: 2787

Arm Length: **5**': 1.6 kb 3': 4 kb



5'>ACCTGCTGTTAACCATGAACT CTTCCTGCTGCCTGTCTTCTGTTT CTCCGATGCTGCCTAACCTCTCTG AGCACCCTGCAGCCCCTCCTGCCA GCAACCGGAGCGGCAGTGGGTTCT GTGAGCAGGTCTTCATCAAGCCGG AGGTCTTCCTGGCTCTGGGCATCG TCAGTCTGATGGAAAACATCCTGG

5'>CATTGCCATCGACAGGTACGT CACCATCTTCTATGCCCTTCGGTA CCACAGCATCATGACAGTGAGGAA AGCCCTCACCTTGATCGGGGTCAT CTGGGTCTGCTGCGGCATCTGCGG CGTGATGTTCATCATCTACTCCGA GAGCAAGATGGTCATCGTGTCT CATCACCATGTTCTTCGCCATGGT GCTCCTCATGG<3' (SEQ ID NO:4)

LacZ-Neo

Cassette

TGATCCTGGCT<3' (SEQ ID NO:3)

FIGURE 2B